INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

100 North Senate Avenue
P. O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

July 23, 2003

TO: Interested Parties / Applicant

RE: Amcast Automotive - Gas City Plant 053-16921-00046

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, ISTA Building, 150 W. Market Street, Suite 618, Indianapolis, IN 46204, **within (18) eighteen days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) the date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for consideration at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

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6015
July 23, 2003

Mr. Duane La Shomb
Amcast Automotive - Gas City Plant
6231 East 500 South
Marion, IN 46953

Re: 053-16921-00046
First Significant Revision to
FESOP 053-12972-00046

Dear Mr. La Shomb:

Amcast Automotive - Gas City Plant was issued a permit on September 3, 2002 for operation of a stationary aluminum die cast plant. A letter requesting changes to this permit was received on December 13, 2002. Pursuant to the provisions of 326 IAC 2-8-11.1, a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of an increase in the paint usage for the existing Liquid Paint Booth (LP-1) from 1.25 ounces per wheel to 2.92 ounces per wheel and coating both sides of the wheel due to General Motors revising the specifications on the coating of Corvette wheels, the addition of two (2) electric casting machines (insignificant activities) and the installation of a forming machine (similar to a hydraulic press and considered a trivial activity).

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions
The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 (Revocation), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Prior to start of operation, the following requirements should be met:

(a) The attached affidavit of construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.

(b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

(c) Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the significant permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this modification and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Michael Hirtler, c/o OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call 973-575-2555 (ext. 3216) or 1-800-451-6027 press 0 and ask for extension 3-6878.

Sincerely,

Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
MH/EVP
c: File - Grant County
U.S. EPA, Region V
Grant County Health Department
Air Compliance Section Inspector - Marc Goldman
Compliance Data Section - Karen Ambil
Administrative and Development
Technical Support and Modeling - Michele Boner

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FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) OFFICE OF AIR QUALITY

Amcast Automotive - Gas City Plant
6231 East 500 South
Marion, Indiana 46953

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: F053-12972-00046	
Issued by: Original Signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: September 3, 2002 Expiration Date: September 3, 2007

First Administrative Amendment: 153-16100-00046, issued on September 20, 2002
Second Administrative Amendment: 053-16687-00046, issued on December 5, 2002

First Significant Permit Revision: 053-16921-00046	Pages Affected: 5, 6, 7, 27, 28, 29, 30, 32a, 32b, 37
Issued by: Original signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date:July 23, 2003

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary aluminum die casting source.

Authorized Individual:	Duane LaShomb, Plant Manager
Source Address:	6231 East 500 South, Marion, IN 46953
Mailing Address:	6231 East 500 South, Marion, IN 46953
SIC Code:	3363
Source Location Status:	Grant
County Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit (FESOP) Minor Source, under PSD Minor Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

(a) One (1) natural gas-fired wash line boiler, identified as B-1, constructed in 1992, with a maximum heat input rate of 10.5 million (MM) British thermal units (Btu) per hour;

(b) One (1) liquid paint booth, identified as LP-1, using twenty four (24) LPHV air atomization guns, coating a maximum of 320 aluminum wheels per hour, using dry filters for particulate matter overspray control;

(c) One (1) natural gas-fired reverberatory furnace identified as REV-1, with a maximum heat input rate of 5.5 MMBtu per hour, with a maximum capacity of melting 3,500 pounds of aluminum per hour, exhausting to one (1) stack identified as REVS-1;

(d) One (1) natural gas-fired reverberatory furnace identified as REV-2, with a maximum heat input rate of 10 MMBtu per hour, with a maximum capacity of melting 4,000 pounds of aluminum per hour; using a natural gas-fired fume incinerator for control of its wet well, exhausting to two (2) stacks identified as REVS-2 and FIS-1;

(e) One (1) shot blasting unit with a maximum process weight rate of 1000 pounds per hour (identified as wheelabrator), utilizing a baghouse for particulate matter (PM) control.

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) One (1) natural gas-fired dry-off oven (clear), identified as PPDO-1, with a maximum heat input rate of 1.6 MMBtu per hour, exhausting through one (1) stack identified as PPDO-1;

(b) One (1) natural gas-fired dry-off oven (color), identified as PPDO-2, with a maximum heat input rate of 1.6 MMBtu per hour, exhausting through one (1) stack identified as PPDO-2;

(c) One (1) natural gas-fired bake oven (clear), identified as PPCO-1, with a maximum heat input rate of 3.6 MMBtu per hour, exhausting through one (1) stack identified as PPCO-1;

(d) One (1) natural gas-fired bake oven (color), identified as PPCO-2, with a maximum heat input rate of 3.6 MMBtu per hour, exhausting through one (1) stack identified as PPCO-2;

(e) One (1) natural gas-fired Pyrolysis furnace;

(f) Five (5) natural gas-fired air make-up units, identified as AMU-1 - AMU-3, AMU-5 and AMU-6, each with a maximum heat input rate of 4.125 MMBtu per hour;

(g) One (1) natural gas-fired air make-up unit, identified as AMU-4, with a maximum heat input rate of 9.9 MMBtu per hour;

(h) Two (2) natural gas-fired air make-up units, identified as AMU-7 and AMU-8, each with a maximum heat input rate of 4.9 MMBtu per hour ;

(i) One (1) natural gas-fired air make-up unit, identified as AMU-11, with a maximum heat input rate of 2.1 MMBtu per hour;

(j) One (1) natural gas-fired jet melt furnace identified as JM-1, with a maximum heat input rate of 3.2 MMBtu per hour;

(k) Two (2) natural gas-fired filter furnaces identified as FF-1 and FF-2, each with a maximum heat input rate of 2.0 MMBtu per hour;

(l) Thirty two (32) electric casting machines with a total casting capacity of 5.6 tons of aluminum per hour;

(m) One (1) natural gas-fired material preheat oven, identified as PO-1, with a maximum heat input rate of 1.2 MMBtu per hour;

(n) One (1) natural gas-fired heat treat in line oven, identified as HT-1, with a maximum heat input rate of 4.6 MMBtu per hour, exhausting to one (1) stack identified as HT-1;

(o) Two (2) natural gas-fired age oven in line, identified as AO-1 and AO-2, each with a maximum heat input rate of 1.0 MMBtu per hour, exhausting to one (1) stack identified as AO-1;

(p) One (1) natural gas-fired caustic tank heater, identified as CT-1, with a maximum heat input rate of 0.4 MMBtu per hour, and exhausting to one (1) stack identified as CT-1;

(q) Three (3) natural gas-fired drop bottom heat treat oven, identified as #2 - #4, each with a maximum heat input rate of 7.5 MMBtu per hour;

(r) Ten (10) natural gas-fired HVAC units, identified as #1 - #10, with a combined maximum heat input rate of 0.125 MMBtu per hour;

(s) One (1) die prep oven, with a maximum heat input rate of 0.8 MMBtu per hour;

(t) One (1) hot cyclone chip dryer, identified as HC-1, with a maximum heat input rate of 0.5 MMBtu per hour, exhausting to one (1) stack identified as HC-1; and

(u) Four heat treat quench tank heaters, identified as QTH1-4, each with a maximum heat input rate of 1.2 MMBtu per hour.

(v) One (1) natural gas-fired preheating oven, identified as PH-1, with a maximum heat input rate of 1.59 MMBtu per hour;

(w) One (1) natural gas-fired two zone cure oven, identified as CO-1, with maximum heat input rates of 4.0 and 1.5 MMBtu per hour for a maximum total capacity of 5.5 MMBtu/hr;

(x) Two (2) electric IR units, identified as IR-1 & 2, with a combined maximum heat input rate of 2.4 MMBtu/hr.

(y) One (1) casting cleaning/chipper operation with a maximum capacity of 1.5 tons of aluminum per hour.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for a Federally Enforceable State Operating Permit (FESOP).

A.5 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either

(1) incorporated as originally stated,

(2) revised, or

(3) deleted

by this permit.

(b) All previous registrations and permits are superseded by this permit.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:
(b) One (1) liquid paint booth, identified as LP-1, using twenty four (24) LPHV air atomization guns, coating a maximum of 320 aluminum wheels per hour, using dry filters for particulate matter overspray control.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coatings applied to metal parts or products in the liquid paint booth (LP-1) shall be limited to 3.5 pounds of VOC per gallon of coating less water delivered to the applicator, for air dried, forced warm air dried, or extreme performance coatings.

Solvent sprayed from the application equipment during clean up or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

D.2.2 FESOP Limit [326 IAC 2-8]

(a) Any change or modification which may increase potential VOC usage at LP-1 such that the source-wide potential to emit VOC is one-hundred (100) tons per year or more, shall require prior approval from the Office of Air Quality (OAQ) before such change can occur.

(b) Pursuant to 326 IAC 2-8, the single HAP and total HAPs input to the liquid paint booth (LP-1) shall not exceed 10 tons and 25 tons per twelve (12) consecutive month period, rolled on a monthly basis, respectively. This will limit source wide single HAP and total HAP emissions to less than 10 and 25 tons per year, respectively. Therefore the requirements of 326 IAC 2-7 do not apply.

D.2.3 Particulate Matter (PM) [40 CFR 52 Subpart P]

Pursuant to 40 CFR 52 Subpart P, the PM from the liquid paint booth (LP-1) shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.2.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

Compliance Determination Requirements

D.2.5 Volatile Organic Compounds (VOC) [326 IAC 8-1-2]

Compliance with the VOC content limit in Condition D.2.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.2.6 Hazardous Air Pollutants (HAPs)

Compliance with the HAP content and usage limitations contained in Condition D.2.2 shall be determined pursuant to 326 IAC 8-1-4(a)(3)(A) using formulation data supplied by the coating manufacturer. However, IDEM, OAM reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.2.7 HAP Emissions

Compliance with Condition D.2.2 shall be demonstrated within 30 days of the end of each month based on the total volatile organic compound usage for the most recent twelve (12) month period.

D.2.8 Particulate [326 IAC 6-3-2(d)]

Pursuant to 326 IAC 6-3-2(d) and in order to comply with D.2.3, the dry filters for particulate control shall be in operation in accordance with manufacturer's specifications and control emissions from the liquid paint booth (LP-1) at all times when the liquid paint booth (LP-1) is in operation.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.2.9 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the liquid paint booth stack while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.2.10 Record Keeping Requirements

(a) To document compliance with Conditions D.2.2 and D.2.3, the Permittee shall maintain records in accordance with (1) through (7) below. Records maintained for (1) through (7) shall be taken daily except monthly where indicated, and shall be complete and sufficient to establish compliance with the HAP usage limits in Condition D.2.2 and the VOC emission limits established in Condition D.2.1.

(1) The VOC content of each coating material and solvent used less water;

(2) The HAP content of each coating material and solvent used;

(3) The amount coating material and solvent used on a daily basis.

(A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(4) The VOC content of the coatings used for each day;

(5) The cleanup solvent usage for each day;

(6) The total single and combined HAP usage, and the total VOC usage, for each month; and

(7) The weight of single and combined HAPs, and the total VOC, emitted for each compliance period.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.11 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.2.2 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

(c) One (1) natural gas-fired reverberatory furnace identified as REV-1, with a maximum heat input rate of 5.5 MMBtu per hour, with a maximum capacity of melting 3,500 pounds of aluminum per hour, exhausting to one (1) stack identified as REVS-1; and

(d) One (1) natural gas-fired reverberatory furnace identified as REV-2, with a maximum heat input rate of 10 MMBtu per hour, with a maximum capacity of melting 4,000 pounds of aluminum per hour; using a natural gas-fired fume incinerator for control of its wet well, exhausting to two (2) stacks identified as REVS-2 and FIS-1.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.3.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) the allowable particulate emission rate from natural gas-fired reverberatory furnaces, identified as REV-1 and REV-2 shall be limited to 5.97 and 6.52 pounds per hour, respectively.

These limits are based on the following equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

D.3.2 Particulate Matter Less Than Ten Microns (PM10) [326 IAC 2-8]

Pursuant to 326 IAC 2-8 (FESOP) the PM-10 emissions from the two reverberatory furnaces, identified as REV-1 and REV-2 shall not exceed 5.97 and 6.52 pounds per hour, respectively (which is equivalent to 26.15 tons per year from REV-1 and 28.55 tons per year from REV-2). Therefore, the requirements of 326 IAC 2-7 (Part 70) do not apply.

Compliance Determination Requirements

D.3.3 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.3.1 and D.3.2, the Permittee shall perform PM and PM-10 testing on two (2) reverberatory furnaces (REV-1 and REV-2) utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from March 1, 2003, the date of the prior valid compliance demonstration on the other reverberatory furnace not tested at the time of the prior test (either REV-1 or REV-2). PM-10 includes filterable and condensible PM-10. Testing shall be conducted in accordance with Section C- Performance Testing.

SECTION D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
One (1) hot cyclone chip dryer, identified as HC-1, with a maximum heat input rate of 0.5 MMBtu per hour, exhausting to one (1) stack identified as HC-1.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.5.1 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]

The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20-1, apply to the one (1) hot cyclone chip dryer, identified as HC-1, except when otherwise specified in 40 CFR Part 63, Subpart RRR.

D.5.2 Secondary Aluminum Smelting Limits [40 CFR Part 63, Subpart RRR]

Pursuant to 40 CFR Part 63.1505, the following conditions shall apply to the one (1) hot cyclone chip dryer, identified as HC-1:

The total polychlorinated dibenzofurans (D/F) emissions from the one (1) hot cyclone chip dryer, identified as HC-1, shall not exceed 2.50 ug/Mg of feed.

D.5.3 Secondary Aluminum Smelting Compliance Determination [40 CFR Part 63, Subpart RRR]

(a) The owner or operator of an affected source or emission unit subject to an emission limit in kg/Mg (lb/ton) or Fg/Mg (gr/ton) of feed/charge must install, calibrate, operate, and maintain a device to measure and record the total weight of feed/charge to, or the aluminum production from, the affected source or emission unit over the same operating cycle or time period used in the performance test. Feed/charge or aluminum production within SAPUs must be measured and recorded on an emission unit-by-emission unit basis. As an alternative to a measurement device, the owner or operator may use a procedure acceptable to the applicable permitting authority to determine the total weight of feed/charge or aluminum production to the affected source or emission unit. The accuracy of the weight measurement device or procedure must be $\pm$1 percent of the weight being measured.

(b) The owner or operator must prepare and implement for the one (1) hot cyclone chip dryer, identified as HC-1, a written operation, maintenance, and monitoring (OM&M) plan. The owner or operator must submit the plan to the applicable permitting authority for review and approval as part of the application for a part 70 or part 71 permit. Any subsequent changes to the plan must be submitted to the applicable permitting authority for review and approval. Pending approval by the applicable permitting authority of an initial or amended plan, the owner or operator must comply with the provisions of the submitted plan. Each plan must contain the following information:

(1) Process parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process.

(2) A monitoring schedule for each affected source and emission unit.

(3) Procedures for the proper operation and maintenance of the one (1) hot cyclone chip dryer, identified as HC-1 used to meet the applicable emission limits or standards in §63.1505.

(4) Procedures for monitoring process parameters, including the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used.

(5) Corrective actions to be taken when process or operating parameters deviate from the value or range established, including:

(A) Procedures to determine and record the cause of an deviation or excursion, and the time the deviation or excursion began and ended; and

(B) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed.

(6) A maintenance schedule for the one (1) hot cyclone chip dryer, identified as HC-1, that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance.

D.5.4 Secondary Aluminum NESHAP [40 CFR Part 63, Subpart RRR]

Pursuant to 63.1500(e), the source must apply for a Title V permit by December 9, 2005.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH

FESOP Quarterly Report

Source Name: Amcast Automotive - Gas City Plant
Source Address: 6231 East 500 South, Marion, Indiana 46953
Mailing Address: 6231 East 500 South, Marion, Indiana 46953
FESOP No.: F053-12972-00046
Facility: Liquid paint booth (LP-1)
Parameter: single HAP and total HAPs
Limit: the total combined usage of the worst case single HAP and total HAPs delivered to the applicators, including clean up solvents, shall be limited to less than 10 and 25 tons per 12 consecutive month period, respectively.

YEAR: _____

Month	Column 1		Column 2		Column 1 + Column 2	
	Single HAP Usage This Month	Total HAP Usage This Month	Single HAP Usage Previous 11 Months	Total HAP Usage Previous 11 Months	Single HAP Usage 12 Month Total	Total HAP Usage 12 Month Total
Month 1						
Month 2						
Month 3						

9 No deviation occurred in this quarter.
9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Significant Permit Revision to a Federally Enforceable State Operating Permit

Source Background and Description

Source Name:	Amcast Automotive - Gas City Plant
Source Location:	6231 East 500 South, Marion, IN 45953
County:	Grant
SIC Code:	3363
Operation Permit No.:	F053-12972-00046
Operation Permit Issuance Date:	September 3, 2002
Significant Permit Revision No.:	053-16921-00046
Permit Reviewer:	NH/EVP

The Office of Air Quality (OAQ) has reviewed a revision application from Amcast Automotive - Gas City Plant relating to the operation of a stationary aluminum die cast plant.

History

On December 13, 2002, Amcast Automotive - Gas City Plant submitted an application to the OAQ requesting to increase the paint usage for the existing Liquid Paint Booth (LP-1) from 1.6 ounces per wheel to 2.92 ounces per wheel and adding an additional coating, an increase in the capacity of the existing Reverberatory Furnace # 2 (REV-2) from 4000 pounds per hour to 5000 pounds per hour (the natural gas heat input capacity will not be modified), the addition of a new Reverberatory Furnace # 3 (REV-3), the addition of two (2) electric casting machines (insignificant activities) and the installation of a forming machine (similar to a hydraulic press and considered a trivial activity) to their existing plant. Amcast Automotive - Gas City Plant was issued a FESOP 053-12972-00046 on September 3, 2002.

New Emission Units and Pollution Control Equipment

One (1) natural gas-fired reverberatory furnace identified as REV-3, with a maximum heat input rate of 4.6 MMBtu per hour, with a maximum capacity of melting 2,000 pounds of aluminum per hour, exhausting to one (1) stack identified as REV-3.

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

Two (2) electric casting machines.

Existing Approvals

The source was issued a FESOP (F053-12972-00046) on September 3, 2002. The source has since received the following:

(a) First Administrative Amendment No.: 053-16100-00046, issued on September 20, 2002; and

(b) Second Administrative Amendment No.: 053-16687-00046, issued on December 5, 2002.

Recommendation

The staff recommends to the Commissioner that the Significant Permit Revision be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on December 13, 2002.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 through 5).

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

Pollutant	Potential To Emit (tons/year)
PM	57.08
PM-10	42.38
SO_2	0.01
VOC	69.02
CO	1.69
NO_x	1.01

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

HAP's	Potential To Emit (tons/year)
Benzene	negligible
Dichlorobenzene	negligible
Formaldehyde	negligible
Hexane	0.04
Toluene	negligible
Lead	negligible
Cadmium	negligible
Chromium	negligible
Manganese	negligible
Nickel	negligible
Glycol Ethers	51.16

TOTAL	greater than 25

Justification for Modification

The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM, PM10 and VOC is greater than 25 tons per year. Therefore, the FESOP source is being modified through a FESOP Significant Permit Revision. This modification is being performed pursuant to 326 IAC 2-8-11.1(f)(1)(E)(i) and 326 IAC 2-8-11.1(f)(1)(E)(iv).

Limited Potential to Emit of Modification after Issuance

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Potential to Emit (tons/year)							
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	Single HAP	HAPs
Reverberatory Furnace (REV-2)[1]	11.29	11.29	--	0.44	--	--	--	--
Reverberatory Furnace (REV-3)	17.96	17.96	--	0.88	--	--	--	--
Surface Coating (LP-1)[2]	2.78[3]	1.30[3]	--	67.59	--	--	9.9	24.00
Natural Gas Combustion[4]	0.04	0.15	0.01	0.11	1.69	1.01	0.04	0.04
Total Emissions	32.07	30.70	0.01	69.02	1.69	1.01	< 10	< 25

[1] FESOP 053-12972-00046, issued on September 3, 2002 calculated potential emissions for REV-2 at the capacity of 4000 lbs/hr. This modification increases the capacity of REV-2 from 4000 lbs/hr to 5000 lbs/hr. For purposes of showing the potential emissions from this modification, REV-2 potential emissions are calculated at 1000 lbs/hr (5000 lbs/hr minus 4000 lbs/hr).

[2] FESOP 053-12972-00046, issued on September 3, 2002 calculated potential emissions from this coating at 0.0125 gallons/wheel (1.6 ounces/wheel). This modification increases the coating usage from 0.0125 gallons/wheel (1.6 ounces/wheel) to 0.0228125 gallons/wheel (2.92 ounces/wheel). For purposes of showing the potential emissions from this modification, Sparkle Silver potential emissions are calculated at 0.0103125 gallons/wheel (0.0228125 gallons/wheel minus 0.0125 gallons/wheel).

[3] PM and PM10 emissions are controlled by a dry filter with a control efficiency of 90%.

[4] Consists of one (1) natural gas-fired reverberatory furnace identified as REV-3 with a maximum heat input rate of 4.6 MMBtu/hr (natural gas low fired NOx burner).

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Limited Potential to Emit of Entire Source

	Potential to Emit (tons/year)							
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	Single HAP	HAPs
Reverberatory Furnace (REV-1)*	26.1~~3~~**5**	26.1~~3~~**5**	0.00	1.53	0.00	**--**	0.00	0.00
Reverberatory Furnace (REV-2)*	~~28.57~~ **33.18**(1)	~~28.57~~ **33.18**(1)	0.00	~~1.75~~ **2.19**(1)	0.00	0.00	0.00	0.00
Pouring/Casting/ Cleaning*	negl.	negl.	0.13	0.92	**--**	0.07	**--**	**--**
Surface Coating*	~~12.94~~ **15.72**(2)	~~6.04~~ **7.34**(2)	0.00	~~27.60~~ **91.07**(3)	0.00	0.00	< 10	< 25
Shot Blasting*	0.01	negl.	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas Combustion*	0.95	3.78	0.30	2.74	41.78	49.74	0.00	0.00
Reverberatory Furnace (REV-3)**	**17.96**	**17.96**	**--**	**0.44**	**--**	**--**	**--**	**--**
Natural Gas Combustion**	**0.04**	**0.15**	**0.01**	**0.11**	**1.69**	**1.01**	**0.04**	**0.04**
Total Emissions	94.01	88.56	0.44	99.00	43.47	50.82	< 10	< 25

*Existing units permitted in FESOP 053-12972-00046, issued on September 3, 2002.
**New emission units
(1) Based on the modified capacity of 5000 lbs/hr.
(2) Emission increase is from the increase in paint usage from 0.0125 gallons/wheel (1.6 ounces/wheel) to 0.0228125 gallons/wheel (2.92 ounces/wheel).
(3) The source wishes to retain its FESOP status, thus surface coating VOC emissions are limited in order for the entire source VOC emissions to be less than 99 tons/yr.

The potential to emit PM10 and VOC from this source (which includes existing and new emission units) is less than 100 tons per year. Therefore, this source will still maintain its FESOP status.

County Attainment Status

The source is located in Grant County.

Pollutant	Status
PM-10	attainment

SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Grant County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this modification.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this modification.

(c) The one (1) natural gas-fired reverberatory furnace, identified as REV-3, is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63.1500 through 63.1519, Subpart RRR, because pursuant to 40 CFR 63.1500(d), the requirements of this subpart do not apply to manufacturers of aluminum die castings, aluminum foundries, or aluminum extruders that melt no materials other than clean charge and materials generated within this facility; and that also do not operate a thermal chip dryer, sweat furnace or scrap dryer/delacquering kiln/decoating kiln. This source only melts primary and secondary ingot, internal roundaround (internal scrap) and clean charge in its furnace and does not operate a thermal chip dryer, sweat furnace or scrap dryer/delacquering kiln/decoating kiln, therefore, the requirements of this rule do not apply.

Note: The two (2) natural gas-fired reverberatory furnaces, identified as REV-1 and REV-2 permitted under FESOP 053-12972-00046, issued on September 3, 2002 are also not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63.1500 through 63.1519, Subpart RRR, because pursuant to 40 CFR 63.1500(d), the requirements of this subpart do not apply to manufacturers of aluminum die castings, aluminum foundries, or aluminum extruders that melt no materials other than clean charge and materials generated within this facility; and that also do not operate a thermal chip dryer, sweat furnace or scrap dryer/delacquering kiln/decoating kiln. This source only melts primary and secondary ingot, internal roundaround (internal scrap) and clean charge in its furnace and does not operate a thermal chip dryer, sweat furnace or scrap dryer/delacquering kiln/decoating kiln, therefore, the requirements of this rule do not apply.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Grant County and the federally enforceable limited potential to emit of all criteria pollutants is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 2-8 (FESOP)

The VOC, single HAP and total HAP input to the one (1) liquid paint booth, identified as LP-1 shall

be limited to less than 100, 10 and 25 tons per twelve (12) consecutive month period, rolled on a monthly basis, respectively. This will limit source wide VOC, single HAP and total HAP emissions to less than 100, 10 and 25 tons per year, respectively. Therefore, the requirements of 326 IAC 2-7 do not apply.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of the one (1) liquid paint booth, identified as LP-1 will still limit single HAP emissions to less than 10 tons per year and total HAP emissions to less than 25 tons per year. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 6-3-2 (Process Operations)

Pursuant to 40 CFR 52 Subpart P, the particulate matter emissions from the one (1) liquid paint booth, identified as LP-1 shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Pursuant to 326 IAC 6-3-2(d), particulate from the one (1) liquid paint booth, identified as LP-1 shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

(a) Pursuant to 326 IAC 6-3-2, the particulate emissions from the one (1) natural gas-fired reverberatory furnace identified as REV-2 shall be limited to 7.58 pounds per hour when operating at a process weight rate of 5,000 pounds per hour. This limit is based on the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

(b) Pursuant to 326 IAC 6-3-2, the particulate emissions from the one (1) natural gas-fired reverberatory furnace identified as REV-3 shall be limited to 4.10 pounds per hour when operating at a process weight rate of 2,000 pounds per hour. This limit is based on the

following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

326 IAC 8-2-9 (Miscellaneous Metal Coating)

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicator at the one (1) liquid paint booth, identified as LP-1, shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for forced warm air dried coatings.

Pursuant to MSDS submitted by the applicant, and to the compliance calculations made (see page 2 of 5 Appendix A), the volume-weighted average VOC content from the one (1) liquid paint booth, identified as LP-1, is less than 3.5 lb/gal, therefore, the facility is in compliance with 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations). The daily volume-weighted average VOC content shall be determined by use of the equation:

Daily Volume-Weighted Average = 3(daily individual coating usage less water (gal/hr)* Ec) / 3(daily coating usage less water (gal/hr))

where: Ec = pounds of VOC per gallon of coating less water for each coating

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.
Based on the MSDS submitted by the source and calculations made, the spray booth is in compliance with this requirement.

Testing Requirements

The Permittee shall perform PM and PM10 testing on the one (1) natural gas-fired reverberatory furnace identified as REV-3 to show compliance with the emission limits established by 326 IAC 6-3-2. This shall be included with the existing test requirements for REV-1 and REV-2, as established at Condition D.3.3 in FESOP No. 053-12972-00046, issued September 3, 2002.

The Permittee shall also perform PM and PM10 testing on the one (1) natural gas-fired reverberatory furnace identified as REV-2 at the new aluminum melting capacity of 5000 pounds per hour.

Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

1. The one (1) liquid paint booth, identified as LP-1 has applicable compliance monitoring conditions as specified below:

   (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

   (b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

   (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

   These monitoring conditions are necessary because the spray paint booth must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-8 (FESOP).

Changes Proposed

1) The one (1) natural gas-fired reverberatory furnace, identified as REV-3 is added to Section A.2. Also, the description of the reverberatory furnace REV-2 is revised to indicate its increased capacity.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

(a) One (1) natural gas-fired wash line boiler, identified as B-1, constructed in 1992, with a maximum heat input rate of 10.5 million (MM) British thermal units (Btu) per hour;

(b) One (1) liquid paint booth, identified as LP-1, using twenty four (24) LPHV air atomization

guns, coating a maximum of 320 aluminum wheels per hour, using dry filters for particulate matter overspray control;

(c) One (1) natural gas-fired reverberatory furnace identified as REV-1, with a maximum heat input rate of 5.5 MMBtu per hour, with a maximum capacity of melting 3,500 pounds of aluminum per hour; using a natural gas-fired fume incinerator for control, exhausting to one (1) stack identified as FI;

(d) One (1) natural gas-fired reverberatory furnace identified as REV-2, with a maximum heat input rate of 10 MMBtu per hour, with a maximum capacity of melting ~~4,000~~ **5,000** pounds of aluminum per hour, exhausting to one (1) stack identified as REV-2;

(e) One (1) natural gas-fired reverberatory furnace identified as REV-3, with a maximum heat input rate of 4.6 MMBtu per hour, with a maximum capacity of melting 2,000 pounds of aluminum per hour, exhausting to one (1) stack identified as REV-3; and

(~~e~~**f**) One (1) shot blasting unit with a maximum process weight rate of 1000 pounds per hour (identified as wheelabrator), utilizing a baghouse for particulate matter (PM) control.

2) The two (2) electric casting machines are added to the Condition A.3(l).

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) One (1) natural gas-fired dry-off oven (clear), identified as PPDO-1, with a maximum heat input rate of 1.6 MMBtu per hour, exhausting through one (1) stack identified as PPDO-1;

(b) One (1) natural gas-fired dry-off oven (color), identified as PPDO-2, with a maximum heat input rate of 1.6 MMBtu per hour, exhausting through one (1) stack identified as PPDO-2;

(c) One (1) natural gas-fired bake oven (clear), identified as PPCO-1, with a maximum heat input rate of 3.6 MMBtu per hour, exhausting through one (1) stack identified as PPCO-1;

(d) One (1) natural gas-fired bake oven (color), identified as PPCO-2, with a maximum heat input rate of 3.6 MMBtu per hour, exhausting through one (1) stack identified as PPCO-2;

(e) One (1) natural gas-fired Pyrolysis furnace;

(f) Five (5) natural gas-fired air make-up units, identified as AMU-1 - AMU-3, AMU-5 and AMU-6, each with a maximum heat input rate of 4.125 MMBtu per hour;

(g) One (1) natural gas-fired air make-up unit, identified as AMU-4, with a maximum heat input rate of 9.9 MMBtu per hour;

(h) Two (2) natural gas-fired air make-up units, identified as AMU-7 and AMU-8, each with a maximum heat input rate of 4.9 MMBtu per hour ;

(i) One (1) natural gas-fired air make-up unit, identified as AMU-11, with a maximum heat input rate of 2.1 MMBtu per hour;

(j) One (1) natural gas-fired jet melt furnace identified as JM-1, with a maximum heat input rate of 3.2 MMBtu per hour;

(k) Two (2) natural gas-fired filter furnaces identified as FF-1 and FF-2, each with a maximum heat input rate of 2.0 MMBtu per hour;

(l) Thirty **two** (3~~0~~**2**) electric casting machines;

(m) One (1) natural gas-fired material preheat oven, identified as PO-1, with a maximum heat input rate of 1.2 MMBtu per hour;

(n) One (1) natural gas-fired heat treat in line oven, identified as HT-1, with a maximum heat input rate of 4.6 MMBtu per hour, exhausting to one (1) stack identified as HT-1;

(o) Two (2) natural gas-fired age oven in line, identified as AO-1 and AO-2, each with a maximum heat input rate of 1.0 MMBtu per hour, exhausting to one (1) stack identified as AO-1;

(p) One (1) natural gas-fired caustic tank heater, identified as CT-1, with a maximum heat input rate of 0.4 MMBtu per hour, and exhausting to one (1) stack identified as CT-1;

(q) Three (3) natural gas-fired drop bottom heat treat oven, identified as #2 - #4, each with a maximum heat input rate of 7.5 MMBtu per hour;

(r) Ten (10) natural gas-fired HVAC units, identified as #1 - #10, with a combined maximum heat input rate of 0.125 MMBtu per hour;

(s) One (1) die prep oven, with a maximum heat input rate of 0.8 MMBtu per hour;

(t) One (1) hot cyclone chip dryer, identified as HC-1, with a maximum heat input rate of 0.5 MMBtu per hour, exhausting to one (1) stack identified as HC-1; and

(u) Four heat treat quench tank heaters, identified as QTH1-4, each with a maximum heat input rate of 1.2 MMBtu per hour.

(v) One (1) natural gas-fired preheating oven, identified as PH-1, with a maximum heat input rate of 1.59 MMBtu per hour;

(w) One (1) natural gas-fired two zone cure oven, identified as CO-1, with maximum heat input rates of 4.0 and 1.5 MMBtu per hour for a maximum total capacity of 5.5 MMBtu/hr;

(x) Two (2) electric IR units, identified as IR-1 & 2, with a combined maximum heat input rate of 2.4 MMBtu/hr.

(y) One (1) pouring/casting operation with a maximum capacity of 1.5 tons of aluminum per hour.

(z) One (1) casting cleaning/chipper operation with a maximum capacity of 1.5 tons of aluminum per hour.

3) The increase in paint usage and the addition of an additional coating has increased the potential to emit of VOC to greater than 100 tons per year. The source wishes to limit source wide VOC emissions to less than 100 tons per year in order to retain its FESOP status. Thus, the FESOP limit in Condition D.2.2 is revised to include language that limits VOC emissions from the one (1) liquid paint booth to less than 91.07 tons per year (99.00 tons per year minus 7.93 tons per year

(limited VOC emissions from remaining units at the source)).

D.2.2 FESOP Limit [326 IAC 2-8]

Pursuant to 326 IAC 2-8, the **VOC,** single HAP and total HAPs input to the liquid paint booth (LP-1) shall not exceed **91.07,** 10 tons and 25 tons per twelve (12) consecutive month period, rolled on a monthly basis, respectively. This will limit source wide **VOC,** single HAP and total HAP emissions to less than **91.07,** 10 and 25 tons per year, respectively. Therefore the requirements of 326 IAC 2-7 do not apply.

4) A new Condition D.2.5 is added to Section D.2 to comply with the requirements of 326 IAC 8-2-9. The rest of Section D.2 will be re-numbered accordingly.

D.2.5 Volatile Organic Compounds (VOC) [326 IAC 8-1-2]

Compliance with the VOC content limit in Condition D.2.1 shall be determined pursuant to 326 IAC 8-1-2(a)(7) using a daily volume-weighted average VOC content for the one (1) surface coating booth, determined by use of the following equation:

Daily Volume-Weighted Average = Σ(daily individual coating usage less water (gal/hr)* Ec) / Σ(daily coating usage less water (gal/hr))

where: Ec = pounds of VOC per gallon of coating less water for each coating

5) Condition D.2.9 (now re-numbered D.2.10) is revised as follows.

D.2.~~9~~**10** Record Keeping Requirements

(a) To document compliance with Conditions D.2.2 and D.2.3, the Permittee shall maintain records in accordance with (1) through (~~6~~**7**) below. Records maintained for (1) through (~~6~~**7**) shall be taken ~~monthly~~ **daily except monthly where indicated,** and shall be complete and sufficient to establish compliance with the HAP usage limits in Condition D.2.2 and the VOC emission limits established in Condition D.2.1.

(1) The VOC content of each coating material and solvent used less water;

(2) The HAP content of each coating material and solvent used less water;

(~~1~~**3**) The amount ~~and content~~ of ~~VOC and HAP for each~~ coating material and solvent used **on a daily basis**.

(A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

~~(2) A log of the dates of use;~~

(~~3~~**4**) The volume weighted **average** VOC ~~and HAP~~ content of the coatings used for each ~~month~~ **day**;

(~~4~~**5**) The cleanup solvent usage for each ~~month~~ **day**;

(~~5~~**6**) The total **single and combined** HAP usage**, and the total VOC usage,** for each month; and

(~~6~~**7**) The weight of **single and combined** HAPs**, and the total VOC,** emitted for each

compliance period.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

6) Conditions D.2.5 (now re-numbered D.6) and D.2.10 (now re-numbered D.2.11) are revised to indicate the correct condition that requires reporting.

D.2.5~~6~~ Hazardous Air Pollutants (HAPs)

Compliance with the HAP content and usage limitations contained in Condition D.~~1.3~~**2.2** shall be determined pursuant to 326 IAC 8-1-4(a)(3)(A) using formulation data supplied by the coating manufacturer. However, IDEM, OAM reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.2.10~~1~~ Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.2.~~3~~**2** shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

7) The facility description box in Section D.3 is being revised to include the one (1) natural gas-fired reverberatory furnace, identified as REV-3. Also, the description of the reverberatory furnace REV-2 is being revised to indicate its increased capacity.

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

(c) One (1) natural gas-fired reverberatory furnace identified as REV-1, with a maximum heat input rate of 5.5 MMBtu per hour, with a maximum capacity of melting 3,500 pounds of aluminum per hour; using a natural gas-fired fume incinerator for control, exhausting to one (1) stack identified as FI; ~~and~~

(d) One (1) natural gas-fired reverberatory furnace identified as REV-2, with a maximum heat input rate of 10 MMBtu per hour, with a maximum capacity of melting ~~4,000~~ **5,000** pounds of aluminum per hour, exhausting to one (1) stack identified as REV-2~~.~~**; and**

(e) One (1) natural gas-fired reverberatory furnace identified as REV-3, with a maximum heat input rate of 4.6 MMBtu per hour, with a maximum capacity of melting 2,000 pounds of aluminum per hour, exhausting to one (1) stack identified as REV-3.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

8) Condition D.3.1 is revised to modify the PM limit for REV-2 based on its increased capacity. Also, a PM limit for REV-3 is added to the condition.

D.3.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) the allowable particulate emission rate from natural gas-fired reverberatory furnaces, identified as REV-1**, REV-2** and REV-~~2~~**3** shall be limited to 5.97**, 7.58** and ~~6.52~~ **4.10** pounds per hour, respectively.

These limits are based on the following equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and

P = process weight rate in tons per hour

9) Condition D.3.2 is revised to modify the PM-10 limit for REV-2 based on its increased capacity. Also, a PM-10 limit for REV-3 is added to the condition.

D.3.2 Particulate Matter Less Than Ten Microns (PM10) [326 IAC 2-8]

Pursuant to 326 IAC 2-8 (FESOP) the PM-10 emissions from the ~~two~~ **three** reverberatory furnaces, identified as REV-1**, REV-2** and REV-~~2~~**3** shall not exceed 5.97**, 7.58** and ~~6.52~~ **4.10** pounds per hour, respectively (which is equivalent to 26.1~~45~~**5** tons per year from REV-1**,** ~~and~~ ~~28.55~~ **33.20** tons per year from REV-2 **and 17.96 tons per year from REV-3**). **Therefore, the requirements of 326 IAC 2-7 (Part 70) do not apply.**

10) Condition D.3.3 is revised to include testing requirements for the one (1) natural gas-fired reverberatory furnace identified as REV-3.

D.3.3 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

During the period within 180 days after issuance of this permit, in order to demonstrate compliance with Conditions D.3.1 and D.3.2, the Permittee shall perform PM and PM-10 testing on ~~two~~ **three** (~~2~~**3**) reverberatory furnaces (REV-1**, REV-2** and REV-~~2~~**3**) utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM-10 includes filterable and condensible PM-10. Testing shall be conducted in accordance with Section C- Performance Testing.

11) The FESOP quarterly report is revised to include VOC usage reporting in order to show compliance with the FESOP limit.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH

FESOP Quarterly Report

Source Name: Amcast Automotive - Gas City Plant
Source Address: 6231 East 500 South, Marion, Indiana 46953
Mailing Address: 6231 East 500 South, Marion, Indiana 46953
FESOP No.: F053-12972-00046
Facility: Liquid paint booth (LP-1)
Parameter: **VOC, ~~S~~s**ingle HAP and total HAPs
Limit: **VOC usage be limited to less than 91.07 tons per twelve (12) consecutive month period rolled on a monthly basis, ~~T~~t**he total combined usage of the worst case single HAP and total HAPs delivered to the applicators, including clean up solvents, shall be limited to less than 10 and 25 tons per 12 consecutive month period, respectively.

YEAR: _____

Month	Column 1			Column 2			Column 1 + Column 2		
	VOC Usage This Month	Single HAP **Usage** This Month	Total HAP **Usage** This Month	**VOC Usage Previous 11 Months**	Single HAP **Usage** Previous 11 Months	Total HAP **Usage** Previous 11 Months	**VOC Usage 12 Month Total**	Single HAP **Usage** 12 Month Total	Total HAP **Usage** 12 Month Total
Month 1									
Month 2									
Month 3									

9 No deviation occurred in this quarter.
9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

Conclusion

This permit revision shall be subject to the conditions of the attached proposed **Significant Permit Revision for a Federally Enforceable State Operating Permit No.: F053-16921-00046**.

Appendix A: Emissions Calculations
Aluminum

Company Name: Amcast Automotive - Gas City Plant
Address City IN Zip: 6231 East 500 South, Marion, IN 45953
First FESOP Significant Permit Revision: 053-16921
Plt ID: 053-00046
Reviewer: NH/EVP

Reverberatory Furnaces (REV-2 and REV-3)
TYPE OF MATERIAL

Aluminum	Throughput LBS/HR	1 TON/2000 lbs	TON/HR	E (lb/hr)
REV-2***	1000	2000	0.5	**2.58**
REV-3	2000	2000	1.00	**4.10**

(a) PM and PM10 emissions from the REV-2 and REV-3 are calculated using 326 IAC 6-3-2 equation: **E = 4.10 x P^0.67** Where: E = Rate of emission in pounds per hour and
The source will conduct stack test to show compliance with the 326 IAC 6-3-2 PM emission limit. P = Process weight rate in tons per hour

are calculated at 1000 lbs/hr (5000 lbs/hr minus 4000 lbs/hr).

REV-2

	PM **lbs/ton Produced**	**PM10**** **lbs/ton Produced**	**SOx** **lbs/ton Produced**	**NOx** **lbs/ton Produced**	**VOC *** **lbs/ton Produced**	**CO** **lbs/tons Produced**
	(a)	(a)	--	--	0.2	--
Potential Emissions lbs/hr	2.58	2.58	--	--	0.10	--
			--			
Potential Emissions lbs/day	61.85	61.85	--	--	2.40	--
Potential Emissions tons/year	11.29	11.29	--	--	0.44	--

REV-3

	PM **lbs/ton Produced**	**PM10**** **lbs/ton Produced**	**SOx** **lbs/ton Produced**	**NOx** **lbs/ton Produced**	**VOC *** **lbs/ton Produced**	**CO** **lbs/tons Produced**
	(a)	(a)	--	--	0.2	--
Potential Emissions lbs/hr	4.10	4.10	--	--	0.20	--
			--			
Potential Emissions lbs/day	98.40	98.40	--	--	4.80	--
Potential Emissions tons/year	17.96	17.96	--	--	0.88	--

** PM10 emissions are assumed to be equal to PM emissions based on 326 IAC 6-3-2 equation.

	PM	**PM10**	**SOx**	**NOx**	**VOC**	**CO**
Total Potential Emissions tons/yr	**29.24**	**29.24**	**--**	**--**	**1.31**	--

* Note: Emission factor is from FIRE version 6.23

Appendix A: Emission Calculations
HAP Emission Calculations

Company Name: Amcast Automotive - Gas City Plant
Address City IN Zip: 6231 East 500 South, Marion, IN 46953
First FESOP Significant Permit Revision: 053-16921
Plt ID: 053-00046
Permit Reviewer: MH/EVP

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Glycol Ethers	Glycol Ethers Emissions (ton/yr)
Sparkle Silver	8.9	0.0228125	320.00	13.15%	37.41

Total State Potential Emissions **37.41**

Weight % Glycol Ethers for Sparkle Silver is calculated as follows:
Sparkle Silver = Glycol Ether (1.17 lb/gal) / Density (8.9 lb/gal) x 100% = 13.15%

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: Amcast Automotive - Gas City Plant
Address City IN Zip: 6231 East 500 South, Marion, IN 45953
First FESOP Significant Permit Revision: 053-16921
Plt ID: 053-00046
Reviewer: NH/EVP

Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
LP-1																
Sparkle Silver*	8.9	66.80%	49.1%	17.7%	52.3%	26.60%	0.0103125	320.000	3.30	1.58	5.20	124.76	22.77	10.68	5.92	75%
Ultra Silver**	8.6	75.10%	58.8%	16.3%	60.6%	20.20%	0.0228125	320.000	3.56	1.40	10.23	245.60	44.82	17.12	6.94	75%
State Potential Emissions			**Add worst case coating to all solvents**								**10.23**	**245.60**	**44.82**	**17.12**		
													PM:	**17.12**		
													PM10*:**	**7.99**		
							PM and PM10 emissions are controlled by a dry filter with a control efficiency of 90%.						**Controlled PM:**	**1.71**		
													Controlled PM10:	**0.80**		

* FESOP 053-12972-00046, issued on September 3, 2002 calculated potential emissions from this coating at 0.0125 gallons/wheel (1.6 ounces/wheel). This modification increases the coating usage from 0.0125 gallons/wheel (1.6 ounces/wheel) to 0.0228125 gallons/wheel (2.92 ounces/wheel). For purposes of showing the potential emissions from this modification, Sparkle Silver potential emissions are calculated at 0.0103125 gallons/wheel (0.0228125 gallons/wheel minus 0.0125 gallons/wheel).
** This coating is being added with this modification, thus potential emissions are calculated using the maximum gallons of material per unit, 0.02281 gallons/wheel (2.92 ounces/wheel)

The one (1) liquid paint booth (LP-1) will comply with the requirements of 326 IAC 8-2-9 (Miscellaneous Metal Coating) by caluclating a daily volume weighted average VOC content.

	Coating Usage (gal/hr)	VOC lb/gal of coating			**lb VOC/hr**
Sparkle Silver	3.30	x	3.30	=	10.90
Ultra Silver	7.30	x	3.56	=	25.97
Total	**10.60**				**36.87**

Volume-Weighted Average **36.87/10.60** = **3.48 VOC lb/gal**

METHODOLOGY
*** PM10 emissions are assumed to be 46.7% of total PM emissions based on AP-42, Appendix B.1-13 (4.2.8 Automobile and light duty truck surface coating operations: Automobile spray booths (water-base enamel))
Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

Appendix A: Emission Calculations
HAP Emission Calculations

Company Name: Amcast Automotive - Gas City Plant
Address City IN Zip: 6231 East 500 South, Marion, IN 45953
First FESOP Significant Permit Revision: 053-16921
Plt ID: 053-00046
Permit Reviewer: NH/EVP

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Glycol Ethers	Glycol Ethers Emissions (ton/yr)
Sparkle Silver	8.9	0.0228125	320.00	13.15%	37.41

Total State Potential Emissions **37.41**

Weight % Glycol Ethers for Sparkle Silver is calculated as follows:
Sparkle Silver = Glycol Ether (1.17 lb/gal) / Density (8.9 lb/gal) x 100% = 13.15%

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Amcast Automotive - Gas City Plant
Address City IN Zip: 6231 East 500 South, Marion, IN 45953
First FESOP Significant Permit Revision: 053-16921
Plt ID: 053-00046
Reviewer: NH/EVP

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
4.6	40.3

Heat Input Capacity includes:
One (1) natural gas-fired reverberatory furnace identified as REV-3 with a maximum heat input rate of 4.6 MMBtu/hr (natural gas low fired NOx burner).

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	50.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.04	0.15	0.01	1.01	0.11	1.69

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions

Company Name: Amcast Automotive - Gas City Plant
Address City IN Zip: 6231 East 500 South, Marion, IN 45953
First FESOP Significant Permit Revision: 053-16921
Plt ID: 053-00046
Reviewer: NH/EVP

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	4.231E-05	2.418E-05	1.511E-03	3.627E-02	6.850E-05

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.007E-05	2.216E-05	2.821E-05	7.656E-06	4.231E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: Amcast Automotive - Gas City Plant
Address City IN Zip: 6231 East 500 South, Marion, IN 46953
First FESOP Significant Permit Revision: 053-16921
Plt ID: 053-00046
Reviewer: MH/EVP

Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
LP-1																
Sparkle Silver*	8.9	66.80%	49.1%	17.7%	52.3%	26.60%	0.0103125	320.000	3.30	1.58	5.20	124.76	22.77	10.68	5.92	75%
Ultra Silver**	8.6	74.83%	58.8%	16.0%	60.6%	20.20%	0.0228125	320.000	3.50	1.38	10.06	241.53	44.08	17.30	6.82	75%
State Potential Emissions			**Add worst case coating to all solvents**								**10.06**	**241.53**	**44.08**	**17.30**		
													PM:	**17.30**		
													PM10*:**	**8.08**		
							PM and PM10 emissions are controlled by a dry filter with a control efficiency of 90%.						**Controlled PM:**	**1.73**		
													Controlled PM10:	**0.81**		

* FESOP 053-12972-00046, issued on September 3, 2002 calculated potential emissions from this coating at 0.0125 gallons/wheel (1.6 ounces/wheel). This modification increases the coating usage from 0.0125 gallons/wheel (1.6 ounces/wheel) to 0.0228125 gallons/wheel (2.92 ounces/wheel). For purposes of showing the potential emissions from this modification, Sparkle Silver potential emissions are calculated at 0.0103125 gallons/wheel (0.0228125 gallons/wheel minus 0.0125 gallons/wheel).
** This coating is being added with this modification, thus potential emissions are calculated using the maximum gallons of material per unit, 0.02281 gallons/wheel (2.92 ounces/wheel)

METHODOLOGY

*** PM10 emissions are assumed to be 46.7% of total PM emissions based on AP-42, Appendix B.1-13 (4.2.8 Automobile and light duty truck surface coating operations: Automobile spray booths (water-base enamel))
Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used